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Surveying Teachers About The Use Of Stability Balls As An Intervention

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Abstract

Stability balls, which are commonly used for physical fitness, have become a recent interest among educators as a classroom intervention. Educators implement stability balls as an alternative to traditional classroom seating with the intent to improve classroom behavior and academic engagement. Little empirical support, however, exists for their use and effectiveness. For the purpose of this study, an 18-item questionnaire was administered to teachers working in school districts in Southern Minnesota that have and have not implemented stability balls as a classroom intervention. The intent of the questionnaire was to uncover motivations for implementation, perceptions regarding effectiveness, and estimate the prevalence of stability balls in classrooms. It was hypothesized that teachers are motivated to use stability balls based on individual student's needs and are perceived as a beneficial intervention in lieu of experimental analysis supporting their efficacy.

Keywords: *Stability balls, intervention, exercise balls, yoga balls, alternative classroom seating*

Surveying Teachers About The Use Of Stability Balls As An Intervention

A classwide intervention increasing in popularity is the use of stability balls as classroom seating. Stability balls, also known as exercise balls or yoga balls, have been suggested to increase level of focus and attention while improving academic achievement (Schilling, Washington, Billingsley, & Deitz, 2003). Spalding, Kelly, Santo Pietro, and Posner-Mayer (1999) describe the effects by stating that "replacing the standard stable classroom chair with an unstable ball that moves can be therapeutic because it does the following: (a) activates postural muscle control resulting in better hand control; (b) improves visual skills for improved focusing, tracking, and scanning; (c) stimulates the vestibular sense for better balance reactions and alertness; (d) stimulates proprioception for better muscle control and force of movement; (e) coordinates the two sides of the body for improved midline orientations; and (f) improves pronunciation of words by promoting jaw stability through improved postural control. Each of these benefits enhances sensory processing, thereby increasing alertness and sustained attention, which, of course, facilitates learning" (p. 13-14).

Unfortunately, there are very few publications investigating the effectives of stability balls as a classroom intervention. Current research has evaluated stability balls within various populations including elementary students with ADHD (Schilling, Washington, Billingsley, & Deitz, 2003; Fedwa & Erwin, 2011), young children with autism spectrum disorder (ASD; Schilling & Schwartz, 2004; Bagatell, Mirigliani, Patterson, Reyes, & Test, 2010), and college students (Kilbourne, 2009).

The purpose of this study was to collect teacher perceptions through an online survey on the effectiveness of the use of stability balls in the classroom. This study aimed to investigate teachers' perceptions and motivations for stability balls as an intervention in their classrooms

even without empirical evidence supporting their use. It was hypothesized that a majority of teachers are familiar with stability balls as an intervention, however more teachers have yet to use them in their classrooms. Additionally, it was hypothesized that teachers who have used stability balls have not studied peer-reviewed research evaluating the effects of stability balls prior to implementation. Also, it was hypothesized that the cost of and general support for their use is a major barrier to implementation. Lastly, it was hypothesized that teachers are motivated to use stability balls to decrease off-task student behavior.

Method

An 18-item questionnaire was administered in participating school districts in Southern Minnesota. The online questionnaire was distributed electronically by school administrators working in the participating districts. Teachers who have and have not used stability balls in their classrooms were asked to participate. Sixty-two teachers between the ages of 23 to 64 years old responded to the questionnaire. Participants were currently teaching kindergarten through twelfth grade in both general and special education settings with the majority of participants teaching kindergarten through fifth grade (56%). Years of experience teaching varied from 0 to 39 or more years, with most teachers having taught for a total of 6 to 10 years (28%).

Survey questions related to each participant's familiarity and experience with stability balls, behaviors stability balls have shown to impact, and how implementation could be improved. More specifically, participants were asked several questions pertaining to his or her perceptions of stability balls including motivation for current or previous use, noticeable effects on classroom behavior, and barriers to implementation. For example, participants were asked to rank which behaviors they felt could be improved by using stability balls (1-being the least effective, 7-being most effective). Behaviors rated include: concentration/focus, in-seat or out-

of-seat, social skills, sensory stimulation, emotional regulation, motor skills, and academic productivity. In addition, how participants became familiar with or learned about the intervention was also surveyed. Common sources included co-workers, administrators, and published information (e.g., newspaper articles, books, scientific research).

Results

Experience

Of the 62 teachers that participated in the study, the majority (91.5%) were familiar with stability balls as an alternative to traditional seating. When asked if they were interested in using stability balls in their classroom or if they would use them again, 77.2% said they were interested or would use them again while 22.8% said that they were either not interested in using stability balls in their own classroom or would not use them again.

When asked if they have used stability balls in the past or if they are currently using them, 47% of the respondents indicated they have not used stability balls, followed by 25% of the participants reported using them in the past. Currently, 22% of the respondents said they were using them in their classroom while 6% said that they are currently using them and have used them in the past.

Motivation

Participants indicated that they received information about stability balls from coworkers (75%), published sources (43.8%), teacher or staff member (39.6%), school psychologist (14.6%), principal (12.5%), social worker (6.3%), and school counselor (6.3%).

When asked what motivated participants to use the intervention, 97% of participants cited student behavior, 42.4% cited student achievement, 33.3% cited published information, 15.2%

cited coworkers, 6.1% cited school psychologists, 3% cited social worker, and 3% cited principal.

When asked what purpose the participants expected the intervention to fulfill, 90.0% indicated that they wanted to decrease off-task behavior, 78.8% reported they expected stability balls to increase on-task behavior, 66.7% wanted to increase academic productivity, 63.6% hoped to decrease out-of-seat behaviors, 36.4% wanted to improve the classroom environment, and 12.1% wanted to increase social skills.

Barriers

In regards to barriers, participants indicated most often that lack of resources (e.g., information, funds, time) has prevented them from using stability balls in their classroom (52.9%). In addition, the participants have not used stability balls for fear of misuse by students (19.1%), concern for personal distraction (4.4%) or lack of support or approval from administration (2.9%).

For the participants who have used stability balls in the past or are currently using them in the classroom, the 3 barriers most often experienced during implementation were misuse by students (85.3%), personal distraction (23.5%), and ineffective for intended purpose (20.6%).

Discussion

Results of the study confirmed most of our hypotheses indicating that the majority of teachers were familiar with stability balls as classroom intervention. Teachers also reported receiving information about the use of stability balls from published works (i.e., newspaper articles, books, scientific research), with the majority finding information from peer-reviewed journal articles. Upon further questioning, however, a majority of teachers reported that they had not read any published information regarding stability ball use. Most teachers reported that they

had never implemented stability balls in their classrooms as an intervention. However, of the teachers that had used them as an implementation found them effective for their intended purpose. Teachers noted that a major barrier that prevented them from implementation in the past had to do with misuse by students as well as funding and support from administration and/or coworkers. Behaviors that teachers hoped to improve with stability balls had to deal with student concentration and focus, sensory stimulation and academic productivity.

One limitation of the current study includes the limited sample size. Only a few school districts from Southern MN were surveyed limiting the amount of information that could be collected. Another limitation was the survey was distributed to administrators of the schools and not the teachers themselves. Therefore, it was difficult to know how many teachers received the invitation to participate in the study.

Future research should directly examine the effects of stability balls in general education classrooms with students with and without disabilities. Effects on student behavior should be evaluated both individually and classwide through direct observations.

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Student Biography

Nicole D. Kafka

Nicole is a graduate from Minnesota State University, Mankato with a Bachelors of Science in Psychology and a minor in Political Science. She was a Dean's List member and was a part of the Student Nurses Association along with the Pre-Law Society at Minnesota State. Her future education plans include attending a graduate program for law and psychology.

RaeLynn J. Limberg

RaeLynn is from Shakopee, Minnesota and graduated in 2013 from Minnesota State University, Mankato with a Bachelor's of Science in Psychology and a minor in Communication Disorders. She is a member of Psi Chi, an International Honor Society for Psychology, and was awarded the 2013 *Margaret Philips Commitment to Children Award* from the Department of Psychology at Minnesota State University, Mankato. Her future educational goals include earning her Doctorate degree in School Psychology from Minnesota State University, Mankato while continuing to research popular classroom interventions.

Faculty Mentor Biography

Carlos J. Panahon, Ph.D.

Dr. Panahon joined the faculty at Minnesota State University, Mankato as an Assistant Professor in the School Psychology Doctoral Program in 2009. He earned his Ph.D. in School Psychology from Syracuse University and his B.S. in Human Development and Family Studies from Cornell University. Previously, Dr. Panahon was an Assistant Professor at Gwynedd Mercy College from 2004-2009

Graduate Student Mentor Biography

Natasha A. Olson, B.S.

Natasha is from White Bear Lake, Minnesota and graduated from Minnesota State University, Mankato in 2010 with a Bachelor of Science in psychology. She has completed her third year in the School Psychology Doctoral Program at Minnesota State Mankato and is in the process of obtaining her cross-disciplinary Master of Science in psychology and special education. She was a 2013 recipient of the *School Psychology Belize Practicum* and the *Global Promise Foundation Study Abroad* scholarships. Upon graduation, Natasha plans to practice in a public school district in early intervention services for infants and children with special needs. In addition, she would like to continue research on evidence-based classwide interventions and classroom management strategies for teachers and staff.